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Montana Army National Guard
Fort Harrison Land Exchange

December 1994

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EXECUTIVE SUMMARY

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The Montana Army National Guard (MT ARNG) is proposing to exchange 667 acres of federal property along Seven Mile Creek (a.k.a. Head Ranch) in return for a total of 2,149 acres of privately-owned land which is currently under a temporary lease agreement with the MT ARNG (Figures 1 - 3). Future use of the 2,149 acres would not differ from the current land use.

The purpose of the exchange is to consolidate federal holdings to ensure that existing live-fire ranges and training areas on the Fort Harrison complex remain usable into the future.

In addition to the Proposed Action, the following alternatives were considered: Alternative 2: No Action Alternative; Alternative 3: Land Swap for Gruber Property Only; Alternative 4: Land Swap for Gruber Property plus All Inholdings; Alternative 5: Outright Purchase of All Inholding, Retain Head Ranch.

Analysis of the potential impacts from the Proposed Action indicate that no change would occur in existing baseline conditions for geological, air, water, and cultural resources and socioeconomic conditions. No change would occur in existing baseline noise levels and hazardous waste management operations.

If the No Action Alternative were selected it is likely that at least one of the existing short-term leases granted by private landowners would not be renewed and some form of real estate development would occur.

If Alternative 3 (Land Swap for Gruber Property Only) were selected the total acres acquired would decrease from 2,149 to 1,189 acres of private land in return the Head Ranch property. This alternative offers less protection from residential encroachment than does the proposed action. However, if this alternative was selected, operation of all of the existing firing ranges would continue into the future.

If Alternative 4 were selected all private inholdings within the existing lease perimeter (3,570 acres) would be added to the existing Fort Harrison in return for the Head Ranch.

If Alternative 5 were selected all private inholdings would be purchased outright and the Head Ranch would be retained. This alternative would require Congressional approval and funding.

TABLE OF CONTENTS

1.0 PURPOSE OF AND NEED FOR PROPOSED ACTION 1
1.1 LOCATION OF THE PROPOSED ACTION 1
1.2 MISSION 2
1.3 PERSONNEL 2
1.4 OPERATIONS AND TRAINING 3
1.4.1 Military Firing Ranges 3
1.4.2 Military Operational Specialty Qualification (MOSQ) 4
1.4.3 Dismounted Infantry Training 4
1.4.4 Land Navigation Course 4
1.4.5 Thermal Targets for M1 Tank Lane Training . 4
1.4.6 Bivouac Area 4
1.4.7 Special Operations Training 4
1.4.8 Helicopter Training 4
1.5 SCOPE OF THE ENVIRONMENTAL REVIEW 5

2.0 DESCRIPTION OF ALTERNATIVES TO THE PROPOSED ACTION AND POTENTIAL FUTURE CUMULATIVE ACTIONS 6
2.1 ALTERNATIVES TO THE PROPOSED ACTION 6
2.1.1 No Action Alternative (Alternative No. 2) . 6
2.1.2 Land Swap for Gruber Property Only (Alternative No. 3) 6
2.1.3 Land Swap for Gruber Property plus All Inholdings (Alternative No. 4) 7
2.1.4 Outright Purchase of All Inholdings, Retain Head Ranch (Alternative No. 5) 7
2.2 DESCRIPTION OF POTENTIAL CUMULATIVE FUTURE ACTIONS 7

3.0 AFFECTED ENVIRONMENT 9
3.1 GEOLOGICAL RESOURCES 9
3.1.1 Physiography/Geology 9
3.1.2 Potential Impacts to Physiography/Geography 9
3.1.3 Soils 9
3.1.4 Potential Impacts to Soils 9
3.2 AIR RESOURCES 10
3.2.1 Climatology and Meteorology 10
3.2.2 Regional Air Quality 11
3.2.3 Sensitive Receptors 11
3.2.4 Potential Impacts to Air Quality from the Proposed Action 12
3.2.5 Potential Impacts to Air Quality from the No Action Alternative 12
3.2.6 Potential Impacts to Air Quality from Alternative 3 - Land Swap for Gruber Property Only 13
3.2.7 Potential Impact to Air Quality from Alternatives 4 and 5 - Land Swap for Gruber Property plus All Inholdings 13
3.3 NOISE 13
3.3.1 Noise Descriptors 13

TABLE OF CONTENTS (Continued)

3.3.2 Potential Noise Impacts from the Proposed Action 13
3.3.3 Potential Noise Impacts from the No Action Alternative 14
3.3.4 Potential Noise Impacts from Alternative 3 - Swap for Gruber Property Only 15
3.3.5 Potential Noise Impacts from Alternatives 4 and 5 - Acquisition of All Inholding . . . 15
3.4 BIOLOGICAL RESOURCES 15
3.4.1 Big Game Species 15
3.4.1.2 Elk 15
3.4.1.3 Mule Deer 17
3.4.1.4 Other Vertebrate Species 18
3.4.1.5 Hunting Season Access 19
3.5 WATER RESOURCES 20
3.5.1 Groundwater 20
3.5.1.1 Potential Impacts to Ground Water from the Proposed Action 20
3.5.1.2 Potential Impact to Ground Water from the No Action Alternative . . 20
3.5.1.3 Potential Impact to Ground Water from Alternative 3 - Swap for Gruber property only 20
3.5.1.4 Potential Impact to Ground Water from Alternatives 4 and 5 - Acquisition of all Inholdings 20
3.5.2 Surface Water 20
3.5.2.1 Impacts to Surface Water if the Proposed Action were Implemented . 21
3.5.2.2 Impact to Surface Waters if the No Action Alternative were Implemented 21
3.5.2.3 Impact to Surface Waters if Alternative 3 were Implemented . . 21
3.5.2.4 Impact to Surface Waters if Alternative 4 were Implemented . . 21
3.5.2.5 Impact to Surface Waters if Alternative 5 were Implemented . . 21
3.5.3 Water Quality 21
3.5.3.1 Impacts to Water Quality if the Proposed Action were Implemented . 22
3.5.3.2 Impacts to Water Quality if the No Action Alternative were Selected . 22
3.5.3.3 Impacts to Water Quality if Alternatives 3 or 4 were Implemented 22
3.5.3.4 Impacts to Water Quality if Alternative 5 were Implemented . . 22

3.6 CULTURAL RESOURCES 22
3.6.1 Head Ranch 22
3.6.2 Potential Impacts to Cultural Resources if the Proposed Action is Implemented 23
3.6.3 Potential Impacts to Cultural Resources if the No Action Alternative is Implemented . 23

TABLE OF CONTENTS (Continued)

3.6.4 Potential Impacts to Cultural Resources if the Alternative 3 - Gruber Property only, is Implemented. 23
3.6.5 Potential Impacts to Cultural Resources if Alternative 4 is Implemented. 24
3.6.6 Potential Impacts to Cultural Resources if Alternative 5 is Implemented. 24
3.7 HAZARDOUS MATERIALS/WASTE MANAGEMENT 24
3.7.1 Installation Restoration Program 25
3.7.2 Potential Impacts on the Generation of Special and Hazardous Waste if the Proposed Action is Implemented. 25
3.7.3 Potential Impacts on the Generation of Special and Hazardous Waste if the No Action is Implemented. 25
3.7.4 Potential Impacts on the Generation of Special and Hazardous Waste if Alternative 3, 4 or 5 is Implemented. 25
3.8 SOCIOECONOMICS 25
3.8.1 Employment and Income 25
3.8.1.1 Potential Impacts to Employment and Income if the Proposed Action is Implemented. 26
3.8.1.2 Potential Impacts to Employment and Income if the No Action Alternative is Selected. 26
3.8.1.3 Potential Impacts to Employment and Income if Alternative 3, 4 or 5 is Selected. 26
3.8.2 Population, Housing, and Other Community Services 26
3.8.2.1 Potential Impacts to Population, Housing and Other Community Services if the Proposed Action Is Implemented. 26
3.8.2.2 Potential Impacts to Population, Housing and Other Community Services if the No Action Alternative Is Implemented. 27

Appendix A Correspondence 34

TABLE OF CONTENTS (Continued)

Tables

Table 1.3 Number of personnel trained at Fort Harrison (man-days) 3

Table 1.4 Military Firing Ranges and Usage 3

Table 3.1 List of Major Soil Types Found 10

Table 3.2 Helicopter Pollutant Emission Rates (tons/year) 12

Table 3.3 Helicopter Noise Levels (Flyover) at 1,000 Feet Above Ground Level 14

Figures

Figure 1 Fort William Henry Harrison 29

Figure 2 Head Ranch 30

Figure 3 Gruber Property Leased by MTARNG 31

Figure 4 Alternative No. 3: Land Swap for Gruber Property Only 32

Figure 5 Alternative No. 4 and No. 5: Land Swap for Gruber Property plus All Inholdings 33

1.0 PURPOSE OF AND NEED FOR PROPOSED ACTION

The Montana Army National Guard (MT ARNG) is proposing to exchange 667 acres of federal property along Seven Mile Creek (a.k.a. Head Ranch) for a total of 2,149 acres of privately-owned land currently leased by the MT ARNG (Figures 1 - 3). The lease is for a 5-year term, annually renewable thereafter, but may be terminated by either party at any time. Future use of the 2,149 acres would not differ from the current land use.

The purpose of the exchange is to consolidate federal holdings to ensure that existing live-fire ranges and training areas on the Fort Harrison complex remain usable into the future. Currently, the safety fans for all existing firing ranges at Fort Harrison extend onto private lands under lease to the MT ARNG. These ranges are:

-- pistol range (.45, 9mm)
-- M16 zero range (5.56mm)
-- M16 qualification (5.56mm)
-- M60 range (7.62mm)
-- M203 range (40mm practice)
-- M72 range (35mm subcaliber)

An inevitable consequence of suburban residential expansion in the Helena Valley is the encroachment of residential development around Fort Harrison and the loss of training areas due to the incompatibility of the two land uses. Recent expansion of real estate developments in the west Helena area and the potential development of land currently leased by MT ARNG (verbal communication) indicate training at Fort Harrison will be compromised if the land is not consolidated. In particular, private land owned by and leased from Mr. Frank Gruber (Figure 3) is under active consideration for residential development. The development of this land would compromise the integrity of the existing range safety fans and require the permanent closure of these ranges. Insufficient federal land exists to allow relocation of existing ranges to other areas of Fort Harrison.

1.1 LOCATION OF THE PROPOSED ACTION

Fort William Henry Harrison is located approximately 3 miles west of Helena (Figure 1). The Fort Harrison VA Center abuts the south boundary of the MT ARNG Fort Harrison property. The VA Center is an independent federal facility administered by the Department of Veterans Affairs.

Fort Harrison is composed of two separate (but proximal) parcels, consisting of the primary (developed) portion and a secondary (undeveloped) area adjacent to Seven Mile Creek known as the Head Ranch (Figure 2). The primary Fort area is 945.07 acres located on portions of sections 15, 16, 17, 21 and 22 of Township 10 North, Range 4 West, Principle Meridian Montana (PMM). This area is part of the original reservation and contains the former cantonment and

the present administrative area. The Head Ranch contains 667.43 acres and is situated in sections 4, 9, 10, and 11, Township 10 North, Range 4 West, PMM (Figure 2).

The Head Ranch, which includes water rights, has various current and potential uses. The land lies in a gentle valley running northwest to southeast and is nearly bisected by Seven Mile Creek flowing to the southeast. The higher ground is composed of poor soils and is best suited to grazing. The valley floor has better soils, can be flood-irrigated from the creek, and may be used for grazing or hay production. The presence of all adjoining Veterans Administration sewage lagoon limits the desirability of some lands, but most of this tract has a much greater potential for subdivision than does the land proposed for acquisition. There are several new homes on small acreage tracts just north of the Head Ranch. Electric and telephone service are available along Head Drive.

The lands sought for acquisition lie primarily to the west of Fort Harrison (Figure 3). Topography varies. The majority of the terrain is moderately to steeply sloping open grasslands. The open slopes are dissected by gullies, ravines and coulees forming cutbanks and locally rugged terrain in association with draws and coulees. The area is essentially devoid of timber, except for an occasional conifer tree (typically juniper). Grasslands are composed of a mixture of native and introduced annual and perennial species.

1.2 MISSION

The MT ARNG is charged with meeting the mandate of the United States Constitution and the Montana Constitution. Foremost is the mission of ensuring domestic tranquility. In order to perform its mission, the MT ARNG must train and equip civilian-soldiers to be ready to respond to any emergency, be it a natural disaster or civil disturbance, as directed by the Governor. In the case of a national emergency, the MT ARNG would respond under the direction of the President of the United States.

Fort William Henry Harrison serves as the focal point for the majority of all training in Montana. Fort Harrison is the only Army training post in Montana and its mission is to provide training areas and facilities for the Army National Guard, Army Reserve and Active Duty military.

1.3 PERSONNEL

Approximately 130 employees work full-time at the Fort Harrison complex in various administrative, training and maintenance functions. Table 1.3 lists the current level of training in man-days from 1992 to the present.

Table 1.3 Number of personnel trained at Fort Harrison (man-days)	
Year	**Man-days**
1992	107,021
1993	115,443
1994	125,000

1.4 OPERATIONS AND TRAINING

The Fort Harrison complex currently provides the following military training opportunities:

-- Military Ranges (small arms only)
-- Military Operational Specialty Qualification (MOSQ) Schools
-- Dismounted Infantry Training
-- Land Navigation Course
-- Thermal Targets for M1 Tank Lane Training
-- Bivouac Area
-- Special Operations Training
-- Low Level Helicopter Training

In addition to the military training listed above, training opportunities occur for various Montana Sheriff's Departments as well as the Montana Highway Patrol and various city and county fire departments.

1.4.1 Military Firing Ranges

Military firing range use by type of range is presented in Table 1.4.

Table 1.4 Military Firing Ranges and Usage	
Type of Firing Range	**Days Used in FY94**
Pistol range (.45, 9mm)	39
M16 zero range (5.56mm)	25
M16 qualification (5.56mm)	48
M60 range (7.62mm)	25
M203 range (40mm practice)	21
M72 range (35mm subcaliber)	21

1.4.2 Military Operational Specialty Qualification (MOSQ) Schools

The MT ARNG Military Academy coordinates all MOSQ schools and provides classroom and training support to several other federal and state agencies. In total, 30 different courses are offered at Fort Harrison with a total enrollment of approximately 1200 personnel (students and instructors) during the year.

1.4.3 Dismounted Infantry Training

Dismounted training occurs generally once per month during summer with up to company-size units (120 soldiers). Maneuvers are limited to foot-traffic and support vehicles are restricted to existing roads.

1.4.4 Land Navigation Course

The land navigation course is used approximately once per month by up to platoon-size units (foot traffic only). The course is used between 35 and 40 times per year.

1.4.5 Thermal Targets for M1 Tank Lane Training

Tank silhouettes made of plywood fitted with insulated electric heat coils are positioned at known distances from a tank course. M1 "Abrams" tank crews practice acquiring these targets during routine training. No rounds are fired at these targets. Tanks are restricted to existing roads and parking lots during training.

1.4.6 Bivouac Area

The area west of Fort Harrison near the M60 range is designated as a troop bivouac (camp) area. During summer months this area receives platoon and company level use for a total of 10-15 days.

1.4.7 Special Operations Training

The landing strip at Fort Harrison (also known as the Marshall Drop Zone) is used during special operations training. During this training C-141s and C-130s use this area for dropping 15 pound practice bundles and parachuting of personnel. Special Operations forces from active military components conduct infiltration (insertion) and exfiltration (extraction) exercises from helicopters flying at low levels.

1.4.8 Helicopter Training

The Fort Harrison training area has been utilized by the MT ARNG for low-level (below 500 feet) flight and other related training activities since 1960. Helicopters practice "touch and go's" and hovering on a landing strip at Fort Harrison as well as sling

loading.

The actual hours of helicopter flight time in the Fort Harrison vicinity is not tracked. Three types of helicopters are flown by the MT ARNG: 18 AH-1 (Cobra) helicopters, 9 UH-1 (Huey) helicopters and 18 OH-58 (Kiowa) helicopters. These aircraft are flown in relative proportion to their numbers, with Cobra and Kiowa helicopter flights being roughly equal at 40 percent each and Huey flights at 20 percent of total flight time.

The number of aircraft using the Fort Harrison training area typically varies from 2-8 aircraft during normal weekday operations. During drill weekends (3 of 4 weekends/month) up to 12 helicopters may be flown in the Fort Harrison training area. Rarely are more than six helicopters present at one time in the area. Flight duration is between 1.5 and 2.0 hours.

1.5 SCOPE OF THE ENVIRONMENTAL REVIEW

An environmental assessment (EA) will be prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the Council of Environmental Quality Regulations, and Army Regulation 200-2. The EA will evaluate the proposed land exchange. The scope of the EA will address potential impacts to the biological, physical, and human environments of the area as a consequence of the proposed action and alternative actions.

To assist in identifying potentially significant issues, Interagency and Intergovernmental Coordination of Environmental Planning (IICEP) are being conducted with federal, state, county and local agencies. Issues identified through the IICEP process will be addressed in the environmental assessment. Responses to the initial scoping letter are listed in Appendix A.

2.0 DESCRIPTION OF ALTERNATIVES TO THE PROPOSED ACTION AND POTENTIAL FUTURE CUMULATIVE ACTIONS

2.1 ALTERNATIVES TO THE PROPOSED ACTION

2.1.1 No Action Alternative (Alternative No. 2)

If no land exchange occurs, it is likely that at least one of the existing short-term leases granted by private landowners would not be renewed and some form of real-estate development would occur. In particular, it is likely that some development on the Gruber property would occur in the near future. Such development would impinge on the impact area (surface danger zone) of one or more firing ranges. Army regulations prohibit operation of firing ranges with buildings, structures or people present inside the surface danger zone.

If the Gruber property is developed, training opportunities will be significantly curtailed. The impact to operations and employment at Fort Harrison is unknown, but has the potential to be highly adverse. It is unlikely that more than a few employees would be impacted in the short-term (1-3 years) by closure of firing ranges or loss of other training opportunities at Fort Harrison. Some opportunity to relocate firing ranges to the Limestone Hills west of Townsend, Montana exists. However, the existing Right-of-Way lease agreement with the Bureau of Land Management limits use to six months of the year.

Regardless of the availability of Limestone Hills, loss of training opportunity at Fort Harrison is likely to have an adverse impact on training dollars and ultimately personnel levels at Fort Harrison in the mid- to long-term (5-10 years). Reduced training opportunities would result in generation of fewer training man-days (cost of funding one soldier for one active-duty day). Man-day use of the facility is used to justify funding levels for personnel support of training and maintenance of facilities. A significant decrease in man-days would ultimately result in decreases in funding levels for the training complex at the Fort, leading to further downsizing of personnel and facilities.

2.1.2 Land Swap for Gruber Property Only (Alternative No. 3)

This alternative could be selected if the per acre appraisal values preclude acquisition of additional lands via a land exchange. Currently, Army regulations preclude the outright purchase of additional land. However, "equivalent value" land exchanges are authorized. Hence, the appraised value of the respective federal and private holdings would ultimately determine the viability of each alternative.

If only the Gruber property were acquired in the land exchange, the total acres acquired would decrease from 2,149 to 1,189 acres of

private land in return for the Head Ranch property (Figure 4). This alternative offers less protection from residential encroachment than does the proposed action. However, implementation of this alternative would still allow for the continued operation of all of the existing firing ranges into the future.

The possibility of further encroachment immediately west of Fort Harrison (Figure 4) and the attendant conflicts between incompatible uses would remain with this alternative.

2.1.3 Land Swap for Gruber Property plus All Inholdings (Alternative No. 4)

This alternative proposes acquisition of all inholdings within the perimeter as outlined in Figure 5. A total of 3,570 acres would be added to the existing Fort Harrison in return for the Head Ranch. The viability of this alternative is dependent upon 1) a high appraisal value for the Head Ranch property; 2) correspondingly low appraisal values for private acreage; 3) the willingness of all parties with inholdings to participate in a land exchange. Accordingly, this alternative, while offering the greatest long-term protection for current training operations at Fort Harrison, also contains a number of preconditions that may ultimately render this alternative unfeasible.

2.1.4 Outright Purchase of All Inholdings, Retain Head Ranch (Alternative No. 5)

This alternative is identical to Alternative No. 4 except the inholding within the perimeter outlined in Figure 5 would be purchased outright and the Head Ranch property would be retained. This alternative would require Congressional approval with funding appropriated by Congress to purchase these lands. This viability of this alternative is dependent upon Congressional support for further acquisition lands.

2.2 DESCRIPTION OF POTENTIAL CUMULATIVE FUTURE ACTIONS

An EA of proposed conversions from Cobra (AH-1) helicopters to a combination of Huey (UH-1H) and Black Hawk (UH-60) helicopters has been produced and is under review by National Guard Bureau. The draft EA was made available to the public and public comments solicited. This proposed conversion would not impact existing training operations at Fort Harrison.

A Master Plan for Fort Harrison has been produced by the MT ARNG Facilities Management Office (FMO) and forwarded to the National Guard Bureau for review and approval. The Master Plan includes proposals for construction of several new buildings to replace existing structures.

The MT ARNG is currently in the process of reorganizing and realigning its existing force structure. The future configuration of the MT ARNG is yet to be finalized; however, no changes in the existing level of use of Fort Harrison are anticipated.

3.0 AFFECTED ENVIRONMENT

3.1 GEOLOGICAL RESOURCES

3.1.1 Physiography/Geology

A good description of the general physiography/geology of the Helena Valley may be found in "Hydrogeology of the Helena Valley-Fill Aquifer System, West-Central Montana" (U.S. Geological Survey, Water-Resources Investigations Report 92-4023 by David W. Briar and James P. Madison). The geology has been described in detail in reports by Knopf (1913), Lorenz and Swenson (1951), Knopf (1963) and Schmidt (1977, 1986).

3.1.2 Potential Impacts to Physiography/Geography

No change in the baseline conditions of the physiography/geography would occur on lands acquired in the Proposed Action or Alternatives 3 - 5. The No-Action Alternative could result in changes to the landscape physiography, depending upon the level of development permitted by the county.

3.1.3 Soils

Soils in the Fort Harrison vicinity are classified as Calciorthids. These are mineral soils which form in dry climates and have a layer of calcium carbonate enrichment at least 6 inches thick within 40 inches of the surface. Calciorthids are formed in alluvial terraces or fans.

Dominant soils on the Head Ranch and private lands under consideration for the land swap are presented in Table 3.1. Soils in the extreme eastern portion of the Head Ranch (Figure 2) are predominately Fairway silt loams. Soils of this type are associated with riparian/wetlands and with a high water table. These soils fall within the flood plain as delineated by Lewis and Clark County Floodplain Administrator.

3.1.4 Potential Impacts to Soils

No change in baseline conditions of soils would occur if the Proposed Action were implemented. No change in baseline conditions would occur on lands acquired by the MT ARNG under Alternatives 3-5. If the No Action Alternative were selected, some level of development on private lands is anticipated. Should development occur, road construction and home construction could have an impact on soil erosion.

Map Symbol and Soil Name	Range Site	Total Production		Characteristic Vegetation	% Comp.
		Kind of Year	Dry Weight lbs/acre		
263E HAUZ-SIEBEN-TOLMAN CHANNERY LOAMS	silty, droughty, 15 to 19 in. PPT zone, Northern Rocky Mountains, Central	favorable	1200	bluebunch wheat grass needle and thread grass western wheat grass other perennial forbs other perennial grasses other shrubs	50 15 10 05 05 05
		normal	900		
		unfavorable	600		
138D CRITTENDEN-TOLMAN COMPLEX	silty, limey, 10 to 14 in. ppt zone, northern Rocky Mountain Valleys, Central	favorable	1600	bluebunch wheat grass western wheat grass other perennial forbs needle and thread grass green needle grass	30 10 10 10 10
		normal	1200		
		unfavorable	800		
20A FAIRWAY SILT LOAM	silty, 10 to 14 in. ppt. zone, Northern Rocky Mountain Valleys, Central	favorable	2000	bluebunch wheat grass western wheat grass other perennial forbs other shrubs needle and thread grass green needle grass	30 10 10 10 10 10
		normal	1600		
		unfavorable	1100		
465A BEAVERELL-ASHLO VERY COBBLY LOAM		favorable	1000	bluebunch wheat grass needle and thread grass other perennial grass western wheatgrass other perennial forbs other shrubs	55 15 10 5 5 5
		normal	700		
		unfavorable	400		
141E CRAGO-PENSORE CHANNERY LOAMS	silty, limey, 10 to 14 in. ppt. zone, Northern Rocky Mountain Valleys, Central	favorable	1100	bluebunch wheat grass needle and thread grass western wheat grass other perennial grasses other perennial forbs	45 20 10 10 5
		normal	800		
		unfavorable	500		
137B MUSSELSHELL - CRAGO COMPLEX	silty, limey, 10 to 14 in. ppt. zone, Northern Rocky Mountains Valleys, Central	favorable	1100	bluebunch wheat grass needle and thread grass western wheat grass other perennial grasses other perennial forbs	45 20 10 10 5
		normal	800		
		unfavorable	500		

Table 3.1 List of major soil types found in the Head Ranch and on the private lands under consideration for acquisition via land exchange. Lewis and Clark County, 1994.

3.2 AIR RESOURCES

3.2.1 Climatology and Meteorology

Climate is semiarid. Average annual precipitation in the Helena Valley is 11 inches (NOAA, 1982). Precipitation at high altitudes of the drainage basins which charge the Valley aquifer can exceed 30 inches/year. Daily air temperatures have an annual range from about -35 to 100 degrees Fahrenheit.

3.2.2 Regional Air Quality

The Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS). The standards set the maximum allowable concentrations of pollutants for a given time period. These standards were established to protect human health and welfare and promote the productive capacity of the population. The standards incorporate a reasonable margin of safety and include maximum concentrations for ozone (O_3), carbon monoxide (CO), nitrogen oxides (NO_x), sulfur oxides (SO_x), particulate matter (PM), particulate matter with a diameter of 10 microns or less (PM_{10}), and lead (Pb).

Areas not meeting ambient air quality standards are designated as nonattainment areas. An area can fail the standard for a specific pollutant, such as lead. This is the case in the east Helena area due to smelting operations. Air quality is determined by comparing ambient air levels with the appropriate primary or secondary NAAQS or Montana Ambient Air Quality Standards (MAAQS). Air Quality in the Fort Harrison area is generally very good.

Air quality in the Helena Valley is strongly influenced by inversions. Inversion strength (lapse rate and thickness of the inversion) and wind speed determine the ventilation or dilution factor. Ventilation is poor in the Helena Valley during the cooler months. Poor ventilation fosters the development of photochemical ozone, and an increase in other pollutants and particulates. Carbon monoxide and particulates reach their highest levels in late fall and winter in the Helena Valley. Prescribed burning seasons are set by state and county regulations. In the Helena Valley, burning is restricted during periods of inversions or periods with poor ventilation.

3.2.3 Sensitive Receptors

Sensitive receptors include individuals or groups of people who are more susceptible to the effects of air pollution than the general population. Long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, and playgrounds are examples of locations where people who are especially sensitive to poor air quality reside. The VA hospital immediately to the south of Fort Harrison is a sensitive

receptor. Of particular concern is the proximity of sources of pollution which emit toxics and carbon monoxide. No significant sources of toxics or carbon monoxide are present in the Fort Harrison Area.

3.2.4 Potential Impacts to Air Quality from the Proposed Action

There would be no change in the existing level of small arms training if the proposed action were implemented. No additional construction is anticipated if the proposed action were implemented.

The current number and duration of helicopter flights would remain unchanged if the proposed action were implemented. (Table 3.2 lists the estimated emission rates of pollutants for the various aircraft that train in the Fort Harrison area.)

It is possible that a small increase in small unit tactic training could occur on the area if the proposed action were implemented. This training would be limited to increases in foot traffic. There would be no increase in vehicle traffic and all vehicle traffic would continue to be restricted to existing roads.

Table 3.2
Helicopter Pollutant Emission Rates (tons/year)

Aircraft Type	Carbon Monoxide	Sulfur Oxides	Nitrogen Oxides	Hydrocarbons	Particulates
Black Hawk	4.57	1.43	6.69	0.32	N
Huey (UH-1)	12.39	2.24	13.33	10.07	N
Kiowa (OH-58)	15.34	0.59	2.66	3.73	N
Total (tons/yr)	32.30	4.26	22.68	14.12	N
Total (lbs/day)	248.46	32.7	174.46	108.62	N
Baseline	250.85	28.54	163.46	136.77	N
Change(lbs/day)	-2.39	4.23	11.0	28.15	N
Change (%)	-1.00	15.00	6.0	26.0	N

N = Negligible
Source: MT ARNG, 1993; U.S. Army, 1993

3.2.5 Potential Impacts to Air Quality from the No Action Alternative

If no action were taken, baseline conditions have an unknown potential to change depending on Mr. Gruber's desire to proceed with some level of development on his property and any restrictions that may be placed on development by local or state government.

3.2.6 Potential Impacts to Air Quality from Alternative 3 - Land Swap for Gruber Property Only

No change in air quality baseline conditions would occur on the Gruber property would occur if this alternative were selected. However, private lands adjacent to Fort Harrison excluded from exchange in this alternative could experience some level of development.

3.2.7 Potential Impact to Air Quality from Alternatives 4 and 5 - Land Swap for Gruber Property plus All Inholdings

No change in air quality baseline conditions would occur on the private lands if one of these alternatives were selected.

3.3 NOISE

Sounds which disrupt normal activities or otherwise diminish the quality of the environment are designated as noise. Noise can be stationary or transient - intermittent or continuous.

3.3.1 Noise Descriptors

Community response to noise is based on a subjective assessment of the daily noise environment. Factors that affect this subjective assessment include the noise levels of individual events, the number of events per day, and the time of day at which the events occur. Most environmental descriptors of noise are based on these three factors, although they may differ considerably in the manner in which the factors are taken into account.

3.3.2 Potential Noise Impacts from the Proposed Action

There would be no change in the existing level of small arms training if the proposed action were implemented. No additional construction is anticipated if the proposed action were implemented.

Table 3.3 details estimated Sound Exposure Levels generated by the various aircraft that either currently train or have the potential to train in the Fort Harrison area. Currently, the MT ARNG flies Huey, Cobra and Kiowa (OH-58) helicopters. An EA on the proposed conversion to a combination of Blackhawk (UH-60) and Huey helicopters has been accomplished. If this conversion were to occur, the Cobra helicopters currently flown by the MT ARNG would be replaced by a combination of Huey and Blackhawk helicopters. A remote possibility exists for conversion from Cobra and Huey helicopters to Apache (AH-64) helicopters. This alternative is discussed in detail (along with other helicopter conversion alternatives) in the MT ARNG Helicopter Conversion, Helena Regional Airport EA (on file at the Environmental Office of the MT ARNG).

The actual number of hours by aircraft per year in the Fort Harrison area would not increase over existing (baseline) levels if the proposed action were implemented. The Apache and Black Hawk helicopters are quieter than the Huey and Cobra helicopters currently operated by the MT ARNG.

Table 3.3
Helicopter Noise Levels (Flyover) at 1,000 Feet Above Ground Level

Distance to Side of Path (Feet)	Sound Exposure Levels, dBA					
	Huey	Black Hawk	Difference (dBA)	Cobra	Apache	Difference (dBA)
0	92	87	5	91	85	6
100	92	87	5	91	85	6
200	92	87	5	91	85	6
300	92	87	5	91	85	6
400	92	87	5	91	84	7
500	91	87	4	90	84	6
600	91	86	5	90	84	6
700	91	86	5	89	84	5
800	90	86	4	89	83	6
900	90	86	4	89	83	6
1,000	90	86	4	88	83	5

Sound Exposure Levels represent the sound level that would result if all of the sound energy of an event occurred during one second. Overflights, which last for about 20 seconds, have Sound Exposure Levels several decibels higher than the maximum sound level of the event. Source U.S. Army, 1992.

3.3.3 Potential Noise Impacts from the No Action Alternative

The potential for increased development on private lands is high. Should residential development occur within the existing surface danger zone of small arms ranges, these ranges would be shut down. This would reduce overall noise levels in the Fort Harrison vicinity in the short term. Over time, further residential development would lead to increases in noise which are the cumulative product of many sources, i.e., traffic, barking dogs, children at play, etc.

As residences are constructed, MT ARNG low-level helicopter flights would be adjusted to avoid overflights of residences. The overall level of noise in the Fort Harrison vicinity from helicopters would not decline in the short term; only the flight routes would change. In the long term, the MT ARNG would likely reduce the number of

training sorties to Fort Harrison and, in particular, the number of night training sorties. This would occur once development reached a point where noise could no longer be sufficiently mitigated by simply changing the flight path.

3.3.4 Potential Noise Impacts from Alternative 3 - Swap for Gruber Property Only

If Alternative 3 were selected and implemented, some development of the adjacent private lands could occur. Firing ranges would not be affected directly by this development. It is anticipated that firing ranges would remain active and training would continue at existing levels with no decrease in noise from small arms fire.

The level of helicopter flights probably would not diminish if only the Gruber property were acquired. However, as development occurs, helicopter flight paths would be adjusted to minimize disturbance of residences.

3.3.5 Potential Noise Impacts from Alternatives 4 and 5 - Acquisition of All Inholding

If either Alternative 4 or 5 were implemented no change in baseline conditions with respect to noise would occur.

3.4 BIOLOGICAL RESOURCES

For the purpose of analysis in this EA, biological resources include the native and naturalized plants and animals in the vicinity of Fort Harrison.

The Montana Natural Heritage Program (MTNHP, 1993) was consulted for information on sensitive species near helicopter flight paths and training areas. This information is located in the Montana Army National Guard Helicopter Conversion Environmental Analysis dated September 1994.

3.4.1 Big Game Species

3.4.1.2 Elk

Portions of the existing lease area serve as important elk winter range (Gayle Joslin, Area Wildlife Biologist, Montana Department of Fish, Wildlife and Parks (MDFWP), personal communication). Most of the elk winter range lies north of the lands that would be acquired if the Proposed Action were implemented.

If either Alternative 4 or 5 were implemented, important elk winter range would be acquired by the MT ARNG. The northwest portion of the existing lease (Figure 5) is the terminal point of a system of ridges and hills which collectively serve as important winter range

and as a travel corridor during certain months. The axis of this system of hills and ridges is roughly 15 miles long and trends along a northwest to southeast axis, encompassing Willit Ridge, War Eagle Hill and extending to Stemwinder Hill (Figure 5). Stemwinder Hill lies within the area which would be acquired if either Alternative 4 or 5 were implemented.

The Blue Cloud-Cherry Creek area is on the southeastern portion of the above-mentioned series of ridges and hills. Cherry Creek lies immediately north of the lease area while Blue Cloud Creek runs through the southwest portion of section 19 in the lease area. Cherry Creek area is particularly important to wintering elk. Portions of Blue Cloud Creek are also important to elk.

As many as 70 elk have been observed on the Blue Cloud-Cherry Creek area during the winter (Gayle Joslin, MDFWP, letter dated June 16, 1992). Aerial survey results of the area during winter months have been conducted by MDFWP. The results of these surveys are on file with the Environmental Office, MT ARNG.

Most elk use on the lease area occurs from December through April. However, use is subject to local snow conditions on adjoining summer range and fall staging areas. As many as 45 elk have been observed during winter on Stemwinder Hill in Section 17 on the lease area (February 8, 1989).

Adjacent areas receive elk use during winter. The results of aerial surveys indicate that adjacent areas receive more extensive elk use overall than the existing lease area. Cherry Creek (immediately to the North of the lease area) receives substantial winter use by elk. A herd of 67 wintering elk were observed in Section 12 on April 20, 1991. Note that aerial surveys capture elk use only on a given day. However, when the pattern of aerial observations are considered in total, conclusions may be made about the importance of an area to elk.

The pattern of observations made during aerial surveys indicate that portions of the existing lease area are important elk winter range; however, adjacent areas receive greater use. No systematic survey of elk use on the existing lease area has occurred, and thus it is impossible to quantify the importance of winter range on the lease area relative to adjacent areas.

Elk Travel/Movement Corridors: As noted above, the existing lease area lies at the extreme southeastern portion of the system of ridges and hills used by elk as a travel corridor during winter months. Elk do not use the same route to travel during fall due to lack of cover. Stemwinder Hill (located on the lease area) is on the southeastern end of the corridor. Because of its terminal position, elk movement is not impeded by roads or training activities.

If Alternative 4 or 5 were implemented, elk movement would remain undisturbed. If the Proposed Action were implemented, little elk winter range would be acquired. Some level of development may occur on elk winter range if it remains in private ownership.

No evidence exists that elk use other portions of the lease area to travel between seasonal use areas. This is consistent with the topography and cover of the area. The only security cover on the area is found along two drainages which run more or less perpendicular to the route elk would need to take to access Cherry Creek.

Elk Calving Areas/Summer Range: Elk do not use the lease area for calving. Elk move in the Sweeney Creek drainage to calve. Elk do not use the lease area during summer and fall. Use occurs primarily during winter and early spring.

Elk Security: Elk are not known to use the site during the hunting season. Due to the lack of timber on the lease area, elk would not be provided security during the hunting season.

Elk Summary: 1) The northwest portion of the existing lease area serves as important elk winter range and is part of a system of hills and ridges which collectively serve as key winter/spring use areas. 2) Elk use on the lease area is seasonal, the major use occurring during winter and early spring. Elk do not calve on the lease area. The temporal aspect of use by elk has important consequences with respect to potential disturbance by training activities. Winter training exercises would not occur near elk wintering areas. Training in spring would be limited to accessible sites at the eastern portion of the lease area, well away from areas elk occupy. 3) A system of hills and ridges extending northwesterly from Stemwinder Hill to Willit Ridge serves as both key winter range and a travel corridor between seasonal use areas. Due to a combination of topography and the location of winter range on the lease area, elk movement would not be adversely affected by the proposed training that would occur should the area be acquired. 4) The area does not provide security cover and thus does not receive elk use during the hunting season. It is not an important area with respect to hunting season security cover.

3.4.1.3 Mule Deer

As many as 170 mule deer are estimated to use the Blue Cloud-Cherry Creek area during winter months (Gayle Joslin, MDFWP, letter dated June 16, 1992). Mule deer use of the existing lease area is less seasonal than elk use. Mule deer are present on the area during all seasons; however, use is heaviest during winter months when mule deer move to south-facing slopes which have been blown free of snow. The actual lease area serves as important winter range; however, no systematic census of mule deer on the lease area has occurred.

Mule Deer Distribution: Mule deer use is typically restricted to the steepest portions of the study area and to swales, coulees and drainages. Browse distribution is restricted to moist areas. Cattle grazing on the area has reduced browse on portions of the area. Cattle grazing would be discontinued if the existing lease area were acquired.

Due to the less temporal aspect of mule deer use on the lease area, it is likely that fawning occurs on the lease area. No information is available on the location of mule deer fawning areas. Aerial survey results on mule deer distribution during winter and spring have been provided by MDFWP and are available through the MT ARNG Environmental Office.

Because mule deer are present on the area during all seasons, the potential for disturbance by training exercises exists. During winter months mule deer congregate in large groups and are nutritionally stressed. Disturbance at this time can have dramatic consequences to survivorship. However, during late spring, summer and fall, mule deer are widely distributed in small groups and are not nutritionally stressed. The wider distribution and lower density of mule deer observed during non-winter months would lessen both the number of displacements due to training and the potential impact on the individual animals. It should be noted that the areas which mule deer typically occupy would receive little vehicular traffic and the disturbance would be limited to incidental foot traffic by small units.

Forage (Browse) availability during winter months is limited to a few scattered shrub species on south slopes. Shrubs are distributed narrowly to swales, coulees and drainage bottoms where cattle have historically congregated and compete with deer for the existing browse species.

Summary on Mule Deer: 1) Mule deer use portions of the study area as winter range and as many as 170 mule deer have been observed during winter in the Blue Cloud-Cherry Creek area. The actual lease area serves as important winter range; however, projected training on the lease area would not occur during winter months in areas which would impact mule deer. 2) Unlike elk, mule deer use on the lease area occurs across all seasons; however, mule deer are widely distributed and at low density during non-winter months due to limited cover and forage availability. 3) The area does not provide security for mule deer during hunting season due to limited cover.

3.4.1.4 Other Vertebrate Species

The Montana Natural Heritage Program conducted a data search to determine if any sensitive species had been reported for the lease area. This information is located in the Montana Army National Guard Helicopter Conversion Environmental Analysis dated September

1994. No records of sensitive species in the lease area were found. However, the results of the search should not be considered either definitive or as a substitute for on-site surveys.

In the absence of a systematic baseline survey of the existing lease area, a definitive list of the species using the area cannot be provided. It should be assumed that all species found to occur in equivalent habitats on adjacent public lands may occur on the existing lease area.

It is unknown what small mammals occur on the area; however, it should be assumed that species abundance is similar to that determined for similar, nearby sites where small mammal surveys have been conducted.

Raptors: No raptor nests were observed during a helicopter survey of the area on March 23, 1993.

Upland Gamebirds: Both sharptailed grouse and Hungarian partridge are known to occur on the existing lease area seasonally. Due to the limited cover and availability of preferred foods, upland gamebird use is limited to a few individuals/coveys.

Nesting cover does not exist on potential bivouac areas. This is due to a combination of factors: 1) The area is at relatively high elevation (> 4,000 ft); 2) Low rainfall (< 10 inches/year) limits vegetative production; 3) Soils are thin and rocky; 4) grazing by livestock has removed residual cover in all but the steepest terrain; 5) Small grain crops/preferred foods are absent or scarce within the general area.

3.4.1.5 Hunting Season Access

The RV Ranch is a large, adjacent ranch which currently does not allow public hunting on the portion of the ranch adjacent to the existing lease area. The policy of other ranches on hunting access is unknown. If the Proposed Action area were implemented, no hunting would occur due to safety considerations attendant a range impact area. Public access would be allowed only with prior written permission from the MT ARNG.

If the No Action Alternative were selected, it is expected that the existing, limited hunting access would continue.

3.5 WATER RESOURCES

3.5.1 Groundwater

A good description of the Helena Valley-fill aquifer system can be found in "Hydrogeology of the Helena Valley-Fill Aquifer System, West-Central Montana" (U.S. Geological Survey, Water-Resources Investigations Report 92-4023 by David W. Briar and James P. Madison). This report is available through the Lewis and Clark Public Library, the U.S. Geological Survey's Helena office and is on file with the MT ARNG Environmental Office.

3.5.1.1 Potential Impacts to Ground Water from the Proposed Action

No change in the baseline conditions of groundwater would occur if the proposed action were implemented.

3.5.1.2 Potential Impact to Ground Water from the No Action Alternative

The No Action Alternative would have an unknown potential to affect groundwater resources depending on the level of private development. The potential impact cannot be determined, but it is presumed to be insignificant given existing state and federal regulations which protect water quality.

3.5.1.3 Potential Impact to Ground Water from Alternative 3 - Swap for Gruber property only

If Alternative 3 were implemented, no change in baseline groundwater conditions would occur on the acquired property.

3.5.1.4 Potential Impact to Ground Water from Alternatives 4 and 5 - Acquisition of all Inholdings

Alternatives 4 and 5 would provide for the least amount of development in the area. No change in baseline groundwater conditions would occur if either of these alternatives were implemented.

3.5.2 Surface Water

Regional surface waters include the Missouri River, Lake Helena and the four principle streams which flow into the Helena Valley. In the vicinity of Fort Harrison, the nearest stream is Seven Mile Creek which courses through the Head Ranch property (Figure 2). Seven Mile Creek flows into Ten Mile Creek which in turn flows into Lake Helena. Flow rates in Seven Mile Creek are dramatically reduced in summer as a result of irrigation diversion upstream. Recent observations of the creek during summer indicate that the stream is dewatered in dry years.

MT Department of FW&P Helena Area Fisheries Biologist Don Skaar, notes that historical fish surveys indicate that eastern brook trout, rainbow trout, white sucker, longnose sucker and mottled sculpin are found upstream of the Head Ranch property on Seven Mile Creek. Mr. Skaar suggested that it would not be surprising if young-of-the-year fry of all species re-colonize Seven Mile Creek in the area of the Head Ranch every spring from spawning areas upstream. These fish are killed during years that the creek is de-watered from irrigation diversion (Refer to FWP letter dated December 2, 1994, Appendix A).

3.5.2.1 Impacts to Surface Water if the Proposed Action were Implemented

If the Proposed Action were implemented, the Head Ranch would be transferred to private ownership. Seven Mile Creek runs through the Head Ranch property. The impact of the Proposed Action on Seven Mile Creek is dependent upon future uses of the land. It is presumed that this property would be subdivided and developed for homesites. Additional destruction to stream banks could occur if the developer fails to impose a setback requirement from the creek. The potential impact to the steam may be somewhat mitigated by county building codes with respect to building in a floodplain. If the Proposed Action is implemented, potential impacts to Seven Mile Creek cannot be assessed since Mr. Gruber has made no formal plans for development design or density.

3.5.2.2 Impact to Surface Waters if the No Action Alternative were Implemented

No change in existing surface water conditions on Seven Mile Creek would occur if the No Action Alternative were implemented.

3.5.2.3 Impact to Surface Waters if Alternative 3 were Implemented

Impacts would be the same as the Proposed Action.

3.5.2.4 Impact to Surface Waters if Alternative 4 were Implemented

Impacts would be the same as the Proposed Action.

3.5.2.5 Impact to Surface Waters if Alternative 5 were Implemented

Impact would be the same as the No Action Alternative impact.

3.5.3 Water Quality

Well tests have been accomplished down gradient of Fort Harrison by the USGS and by MT ARNG. A total of seven wells down gradient of Fort Harrison were tested in June of 1994. Well depth varied from 209 feet to 30 feet. All seven wells were tested for volatile organic compounds (VOC's) and all wells were negative for the

presence of VOC's. Four of the seven wells were also tested for metals and cyanide and were found below the detection limits for both. In addition to VOC's, Metals, and cyanide, the well at the Up Country Inn was tested for nitrates. Results indicated nitrates were within normal limits.

3.5.3.1 Impacts to Water Quality if the Proposed Action were Implemented

No change in baseline ground water quality would occur if the Proposed Action were implemented. Surface water quality of Seven Mile Creek could be adversely impacted if development were to be poorly regulated and if no setback requirements were stipulated by the developer so as to minimize impact to surface waters of Seven Mile Creek.

3.5.3.2 Impacts to Water Quality if the No Action Alternative were Selected

No change in baseline water quality would occur on Seven Mile Creek. Ground water quality could be impacted by development on private lands; however, this possibility seems remote given the type of development anticipated on private lands.

3.5.3.3 Impacts to Water Quality if Alternatives 3 or 4 were Implemented

Impacts to water quality would be the same as those described if the Proposed Action were implemented.

3.5.3.4 Impacts to Water Quality if Alternative 5 were Implemented

No change in baseline water quality would occur if Alternative 5 were selected.

3.6 CULTURAL RESOURCES

3.6.1 Head Ranch

Gar C. Wood and Associates of Loma, MT was contracted to complete an archeological survey of Fort Harrison and the Head Ranch. Field work was accomplished from October 1992 to June of 1993. A detailed report of his findings is available for review in the Command Historian's office of the MT ARNG. The following overview is extracted from the Cultural Resource Management Report, August, 1993.

"There are five historic sites located on the Head Ranch. Site 24LCt101 and 24LCt102 are abandoned and dismantled farmsteads. Site 24LCt101 has no standing structures, has no significant associations, but it may be more than 50 years old. Site 24LCt102 also has no standing structure, has no significant associations,

and may also be more than 50 years old. Site 24LCt104 is a possible placer mine ore material washing location. It is undated and has no standing structures. Site 24LCt103 is a reclaimed dump which may be associated with the Head Ranch. These individual sites are not likely to contribute important information to local history from physical remains alone."

The Head Ranch Headquarters consisting of seven buildings on 3.3 acres adjacent to Head Lane are not included in the proposed land exchange. The 3.3 acres will remain under the control of the Montana Army National Guard.

3.6.2 Potential Impacts to Cultural Resources if the Proposed Action is Implemented

No adverse impacts to cultural resources would occur if the proposed action were implemented. Baseline cultural resources inventories of the Head Ranch indicate no historically important structures or buildings are present on the property nor are there potentially important archeological sites.

If the proposed action were implemented, a cultural resource inventory of the newly acquired property would be scheduled as soon as funds become available from National Guard Bureau. No change in the existing baseline conditions would occur on the acquired property and thus no potential exists for any adverse impact exists.

3.6.3 Potential Impacts to Cultural Resources if the No Action Alternative is Implemented

Under the No Action Alternative, the Head Ranch would remain undeveloped and current baseline conditions would persist. No historically significant buildings or structures appear to exist within the current lease area; however, a systematic cultural resource inventory of these private lands has not been accomplished. As previously noted, it is likely that some level of development would occur in the near term on the Gruber property should the No Action Alternative be selected. The extent of development coupled with the potential for archeological sites would ultimately determine the potential impact to cultural resources if this alternative were selected. Neither the level of development nor the potential for archaeologically important sites is known.

3.6.4 Potential Impacts to Cultural Resources if the Alternative 3 - Gruber Property only, is Implemented.

The potential impacts to cultural resources on Head Ranch would be the same as described in the Proposed Action. No change in baseline cultural resources would occur on the Gruber property if Alternative 3 were selected. The potential for impacts to cultural

resources on adjacent private lands within the current lease area is unknown for the reasons stated in the 3.6.3 above.

3.6.5 Potential Impacts to Cultural Resources if Alternative 4 is Implemented.

Alternative 4 would allow for acquisition of all private lands within the current lease area in return for the Head Ranch. No change in existing use would occur on lands acquired in this alternative. Potential impacts to cultural resources on the Head Ranch would be as described in 3.6.2.

3.6.6 Potential Impacts to Cultural Resources if Alternative 5 is Implemented.

Alternative 5 proposes outright purchase of all inholdings within the current lease area and the retention of the Head Ranch property. This alternative would result in no change in baseline conditions of cultural resources.

3.7 HAZARDOUS MATERIALS/WASTE MANAGEMENT

Currently Fort Harrison is classed as a small quantity generator (generates <2,000 lbs/month of HW) under 40 CFR 261 and 16.44.401 Administrative Rules of Montana (ARM). The EPA registration number is MT 8211830080. All hazardous materials and hazardous waste are handled in accordance with applicable state, federal and Army regulations. Transport of hazardous materials and hazardous waste is accomplished by trained MT ARNG personnel in accordance with Department of Transportation regulations (49 CFR 171-180 and 300 et seq.). Fort Harrison is registered as a Transporter under its EPA I.D. number. Disposition and disposal of hazardous materials and waste is coordinated through the Defense Reutilization and Marketing Office (DRMO) located at Malmstrom Air Force Base, Great Falls, Montana.

Used oil is managed for energy recovery burning at three MT ARNG sites. Internal management policies and procedures are governed by DMAMT Regulation 200-7 in accordance with 40 CFR 279.1 et seq. The MT ARNG is registered as a Used Oil Marketer under its EPA registration for purposes of storage, record keeping and reporting requirements.

On site storage of hazardous waste and special waste occurs. Hazardous waste storage occurs in approved satellite storage areas and in a RCRA-conforming storage building with appropriate secondary containment and security. Used petroleum, oils and lubricants (POL) destined for energy recovery or recycling are stored in 55 gallon drums on secondary containment pallets. All storage areas for hazardous wastes, antifreeze and used POL products are routinely inspected per applicable regulations found in 40 CFR 265 and 16.44.415 ARM.

3.7.1 Installation Restoration Program

A Preliminary Assessment (PA) of Fort Harrison was completed in July of 1993 by Argonne National Laboratory. The PA identified six sites as being environmentally significant (i.e., having the potential to threaten human health and the environment). A Site Investigation (SI) will be conducted during the spring and summer of 1995 in order to determine if collectively or individually, the sites identified as environmentally significant pose a threat to human health and the environment and to propose appropriate actions to protect human health and the environment.

3.7.2 Potential Impacts on the Generation of Special and Hazardous Waste if the Proposed Action is Implemented.

No change in the current level of waste generation will occur if the proposed action is implemented.

3.7.3 Potential Impacts on the Generation of Special and Hazardous Waste if the No Action is Implemented.

If the No Action alternative is selected, the potential exists for development inside the surface danger zone of existing firing ranges. If such development occurs, the affected ranges would shut down. A reduction in live-fire training would not change the current level of waste generation at Fort Harrison. Almost all special and hazardous waste is generated from vehicle maintenance shops on the Fort. Current maintenance operations are independent of existing small arms training levels at Fort Harrison.

3.7.4 Potential Impacts on the Generation of Special and Hazardous Waste if Alternative 3, 4 or 5 is Implemented.

No change in the current level of waste generation would occur if any one of these three alternatives is implemented.

3.8 SOCIOECONOMICS

3.8.1 Employment and Income

A discussion of employment and income in Lewis and Clark County may be found in the EA of the Montana Army National Guard Helicopter Conversion, Helena Regional Airport.

As noted previously, approximately 130 employees work full-time at the Fort Harrison complex in various administrative, training and maintenance functions.

3.8.1.1 Potential Impacts to Employment and Income if the Proposed Action is Implemented.

No change in baseline employment conditions would occur if the proposed action were implemented.

3.8.1.2 Potential Impacts to Employment and Income if the No Action Alternative is Selected.

Should existing training opportunities be significantly curtailed, the impact to operations and employment on Fort Harrison is unknown, but potentially highly adverse. It is unlikely that more that a few employees would be impacted in the short-term (1-3 years) by closure of firing ranges or loss of other training opportunities at Fort Harrison. Some opportunity to relocate firing ranges to the Limestone Hills west of Townsend, Montana exists. However, the existing Right-of-Way lease agreement with the Bureau of Land Management limits use to six months of the year.

Regardless of the availability of Limestone Hills, loss of training opportunity at Fort Harrison is likely to have an adverse impact on training dollars and ultimately personnel levels at Fort Harrison in the mid to long-term (5-10 years). Reduced training opportunities would result in generation of fewer training man-days (cost of funding one soldier for one active-duty day). Man-day use of the facility is used to justify funding levels for personnel support of training and maintenance of facilities. A significant decrease in man-days would ultimately result in decreases in funding levels for the training complex at the Fort, leading to further downsizing of personnel and facilities.

3.8.1.3 Potential Impacts to Employment and Income if Alternative 3, 4 or 5 is Selected.

No change in baseline employment conditions would occur if Alternative 3, 4 or 5 is selected.

3.8.2 Population, Housing, and Other Community Services

A discussion of population, housing and other community services in Lewis and Clark County may be found in the EA of the Montana Army National Guard Helicopter Conversion, Helena Regional Airport.

3.8.2.1 Potential Impacts to Population, Housing and Other Community Services if the Proposed Action Is Implemented.

If the Proposed Action is implemented, some development would occur on the Head Ranch property. It is presumed that this development would occur in accordance with existing county planning ordinances and in accordance with state subdivision regulations. It is unknown what, if any impact such development could have on

community services; however, it seems reasonable to say that the impact would be small given the limited acreage involved.

3.8.2.2 Potential Impacts to Population, Housing and Other Community Services if the No Action Alternative Is Implemented.

If the No Action Alternative is selected, some development of private lands currently under temporary lease agreement to the MT ARNG could occur. It is reasonable to assume that this development would occur within the next 2-3 years on the Gruber property. The level of development is unknown; however, it is presumed that it would be in accordance with existing county planning ordinances.

FIGURES

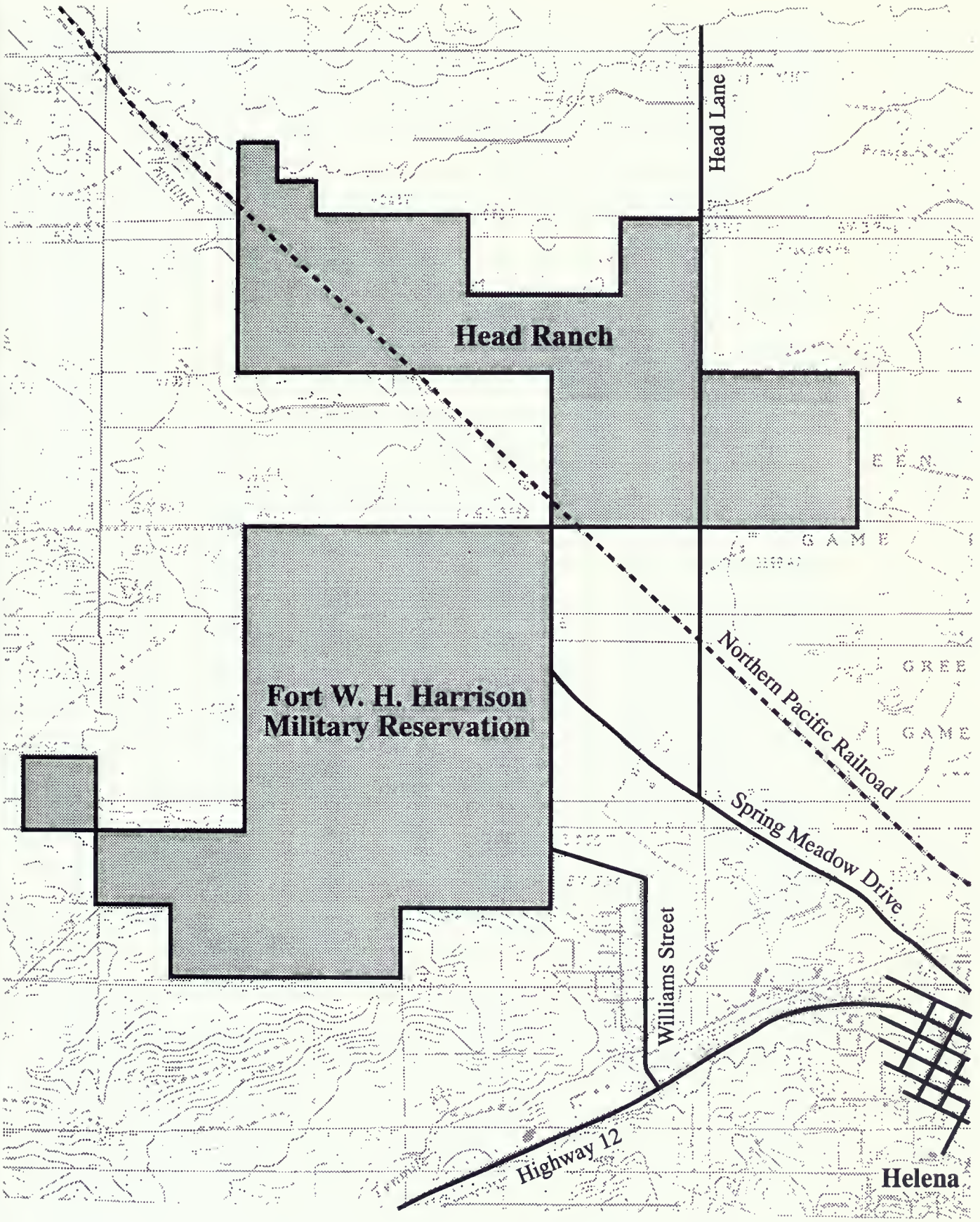

Figure 1.
Site location - Fort Harrison and surrounding area. Lewis and Clark County Montana.

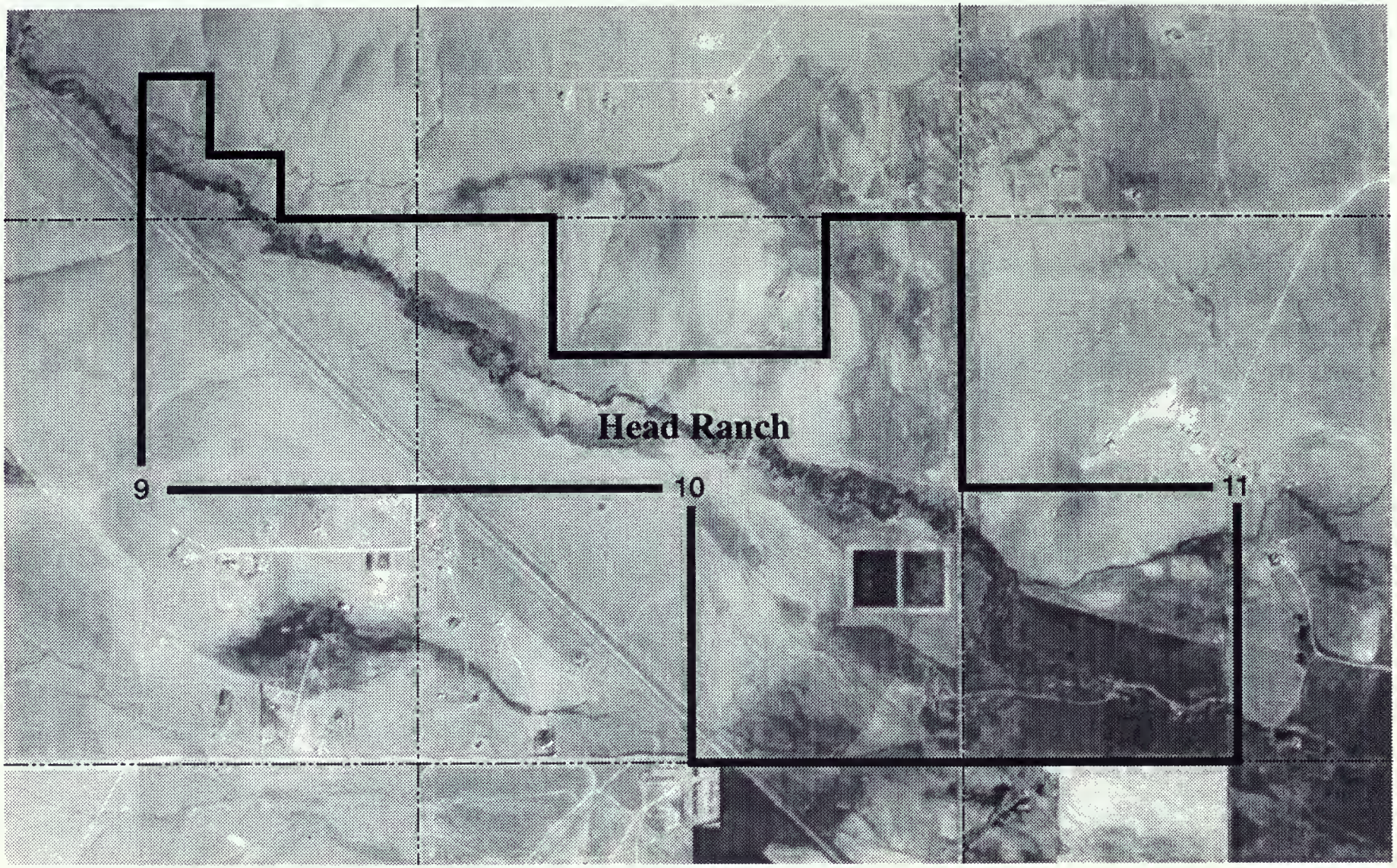

Figure 2.
Head Ranch Location. Boundaries of Head Ranch are highlighted. Lewis and Clark County, Montana 1994

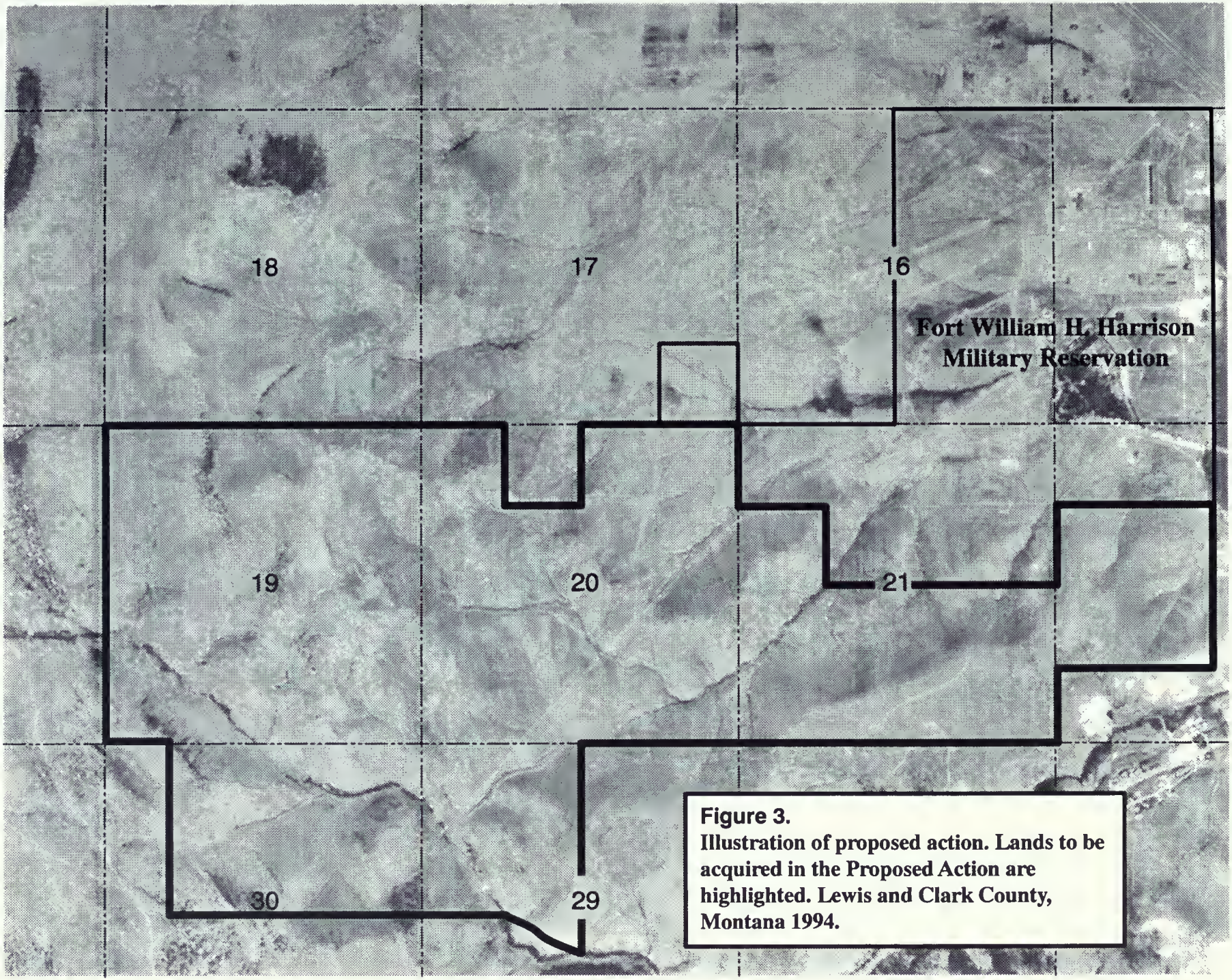

Figure 3.
Illustration of proposed action. Lands to be acquired in the Proposed Action are highlighted. Lewis and Clark County, Montana 1994.

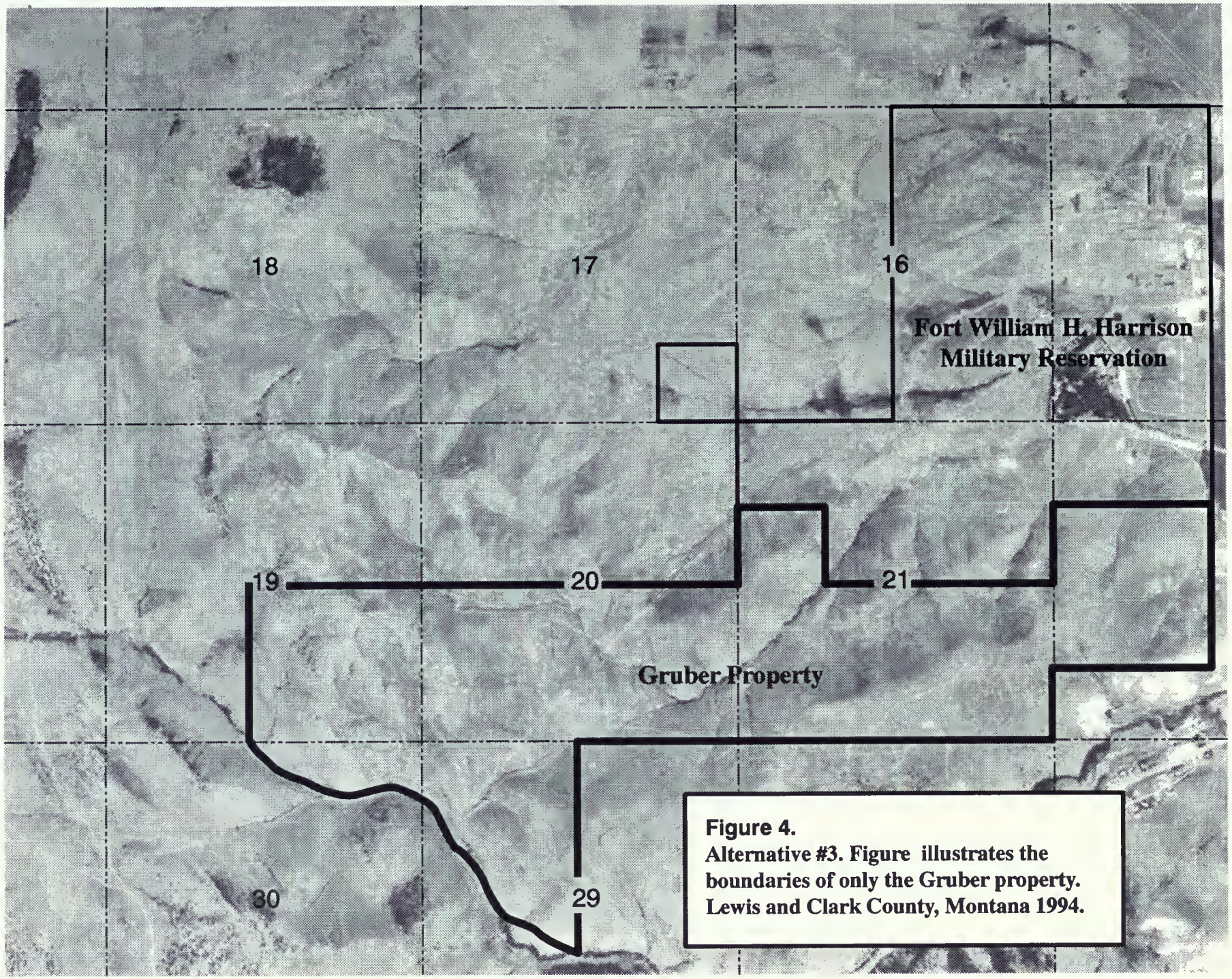

Figure 4.
Alternative #3. Figure illustrates the boundaries of only the Gruber property. Lewis and Clark County, Montana 1994.

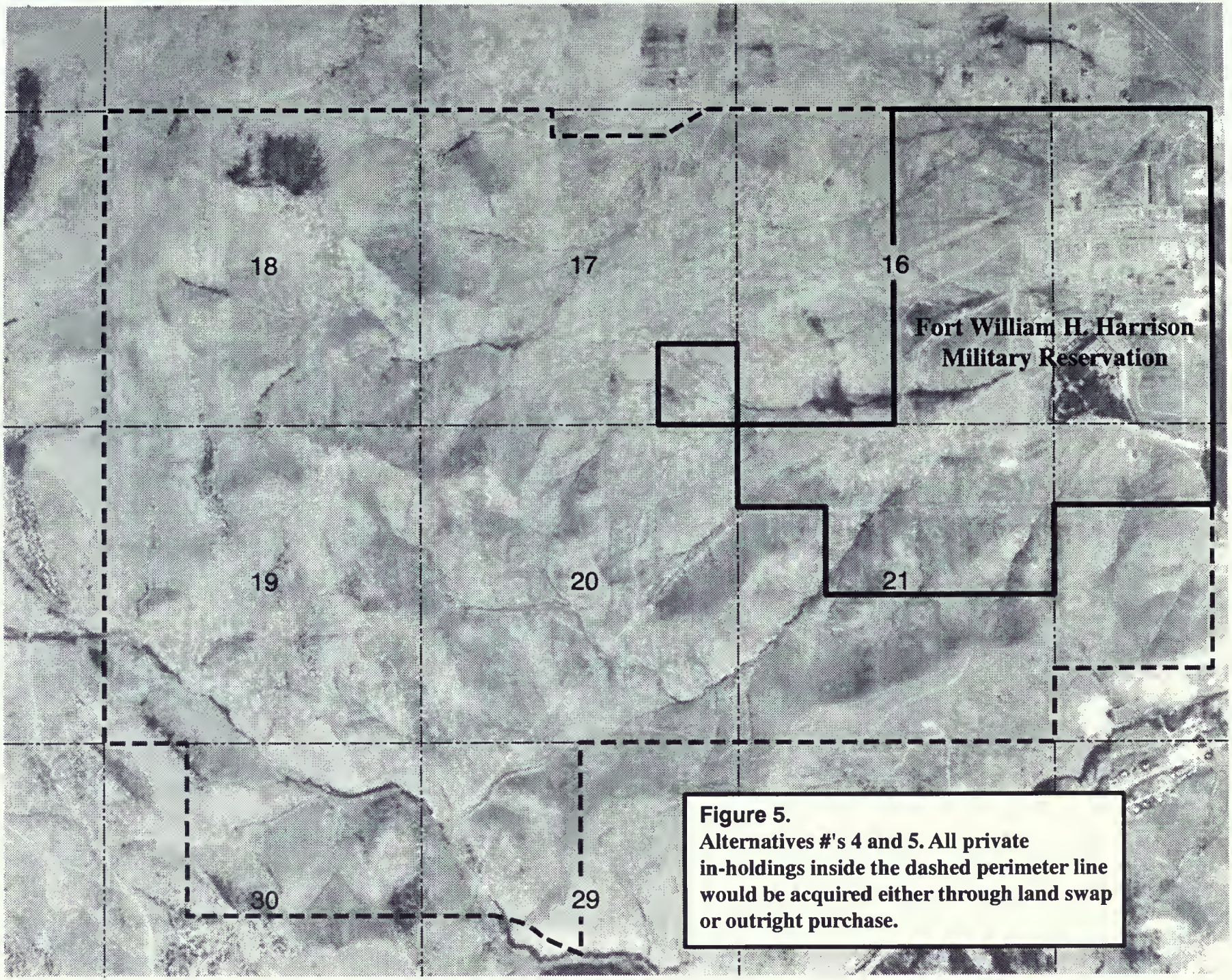

Figure 5.
Alternatives #'s 4 and 5. All private in-holdings inside the dashed perimeter line would be acquired either through land swap or outright purchase.

APPENDIX A

DEPARTMENT OF MILITARY AFFAIRS

MARC RACICOT, GOVERNOR

P.O. BOX 4789

STATE OF MONTANA

OFFICE OF THE ADJUTANT GENERAL
(406) 444-6910

HELENA MONTANA 59604-4789

November 9, 1994

Dear Sir/Madam:

The Montana Army National Guard (MT ARNG) is proposing to acquire 2,149 acres by land exchange. MT ARNG proposes to exchange the federally-owned Head Ranch property (approx 667 acres) immediately north and east of Fort Harrison proper (see Figure 1) for private holdings of approximately 2,149 acres south and west of Fort Harrison proper (see Figure 1).

According to the National Environmental Policy Act (NEPA) and the Montana Environmental Policy Act (MEPA), the MT ARNG must assess the potential environmental impacts of the proposed action and alternatives. The MT ARNG Environmental Office will prepare an environmental assessment to analyze any potential impacts from the proposed land exchange.

In accordance with Executive Order 12372, Intergovernmental Review of Federal Programs, the MT ARNG is requesting input from other federal, state, and local agencies on the proposal. A Description of the Proposed Action and Alternatives is attached for your review and comment. Please identify any resources within your purview that may be potentially impacted. Maps and drawings with project information are also attached to assist your office in reviewing the proposal.

Please provide any comments or information within 30 days of receipt of this letter. Responses may be sent to:

Department of Military Affairs
Environmental Office
Attn: Clif Youmans
PO Box 4789
Helena, MT 59604-4789

Your assistance in providing information is greatly appreciated. Questions may be directed to Clif Youmans of the MT ARNG at (406) 444-7974 or Captain Steve Martinka of the MT ARNG at (406) 444-7943.

Sincerely,

John B. Wheeler, J.D.
Environmental Program Manager

"AN EQUAL OPPORTUNITY EMPLOYER"

Distribution to:

Department of Agriculture
Department of Natural Resources and Conservation
Department of Fish, Wildlife and Parks
Department of Health and Environmental Sciences-Air Quality Bureau
Department of Health and Environmental Sciences-Water Quality Bureau
State Historic Preservation Officer
Bureau of Land Management-Butte
Bureau of Land Management-Billings
US Fish and Wildlife Service
Environmental Protection Agency
Lewis and Clark County Planning Department
Environmental Quality Council

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Headwaters Resource Area
106 North Parkmont
P.O. Box 3388
Butte, Montana 59702-3388

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:

M59955 (075)

DEC 03 [illegible]

Mr. Cliff Youmans
Department of Military Affairs
Environmental Office
P.O. Box 4789
Helena, MT 59604-4789

Dear Cliff:

We have reviewed the information you sent us on the proposed Ft. Harrison exchange as it pertains to the public lands which would be encompassed by the expanded Ft. Harrison. We don't see any serious resource conflicts involved with the affected public lands. There are no current mining claims. If you go to alternatives 4 or 5, a small portion of Lots 5, 6, Section 18, T. 10N., R. 4W., PMM, is leased for grazing. It is part of the Granite Creek Allotment leased to Nancy A. Burnham. We do not expect adjusting the lease or continuing the grazing will present any serious problems.

Our primary concern is how jurisdiction of the tracts of public land would be transferred to the National Guard. Our strong preference is for the National Guard to purchase the tracts outright. The disposal of these tracts would be accomplished under our land exchange program, but the process for the National Guard would be the same as if we sold the tracts under our sale procedures. In other words, the National Guard would purchase the tracts at fair market value, and we would apply the proceeds toward an acquisition elsewhere. Our second choice would be withdrawal of the public lands. We would prefer not to have any further management responsibility for these public lands if the proposed exchange is completed.

We appreciate this opportunity to comment. Please keep us informed, and if you have any additional questions, please contact Bob Rodman at 494-5059.

Sincerely,

Merle Good
Area Manager

Montana Department of Fish, Wildlife & Parks

Helena Resource Area
1404 Eighth Avenue
Helena, MT 59620

December 14, 1994

Department of Military Affairs
Environmental Office
Attn: Clif Youmans
P.O. Box 4789
Helena, MT 59604-4789

RE: Fort Harrison Land Exchange

Dear Mr. Youmans,

The following comments are in reference to the proposal to exchange the Head Lane property, now owned by the Montana Army National Guard (ARNG), for lands currently leased by the ARNG in the Blue Cloud area. Consequences for wildlife are briefly considered here. If further information is required, please call me at 444-4484.

The Head Lane property, occurring as it does along Sevenmile Creek, is shrubby riparian habitat in an otherwise open sagebrush/prairie community. The property is also becoming an island of relatively undisturbed habitat as subdivisions expand throughout the Scratchgravel Hills country and the Helena valley in general.

This portion of Sevenmile Creek, between the Scratchgravel Hills (about 9 sections of BLM land) and Mount Helena (Helena National Forest - Ten Mile Creek watershed) is a natural travel corridor for wildlife. We consistently receive calls regarding road-killed animals on the Spring Meadow road and reports of extensive beaver activity. Deer, moose, lions, bears and a variety of other wildlife utilize this corridor as they move between these parcels of public lands.

The Blue Cloud property is steep, open and relatively uninhabited by humans. It is utilized as yearlong habitat for 200-300 mule deer and winter habitat for approximately 70 elk. Although it is currently in private ownership, the likelihood of extensive subdivision and thus loss of wildlife habitat is less likely for this piece of property than for the Head Lane parcel.

From the perspective of wildlife impacts, the No Action Alternative would have the least negative consequences for wildlife if the status quo could be maintained. If the exchange does occur, a conservation easement to protect wildlife habitat on the Head Lane property would be beneficial.

Thank you for this opportunity to comment.

Sincerely,

Gayle Joslin
Wildlife Biologist

[xchg-ng.mlt]

Montana Department of Fish, Wildlife & Parks

1408 East 8th Ave.
Helena, MT 59601
December 2, 1994

Cliff Youmans
Dept. of Military Affairs
Environmental Office
P.O. Box 4789
Helena, MT 59604-4789

Dear Cliff:

I am writing in response to your request to provide comments on the proposed land exchange of the Head Ranch property.

The fisheries data we have in our files is skimpy. We stocked brown trout in Sevenmile Creek in 1965 (above your property), and although this species is no longer believed to occur in the stream, they were documented to have successfully reproduced at least once. Fish surveys in the 60s, 70s and angler reports in the 80s indicate that the stream just upstream from your property has eastern brook trout, rainbow trout, white sucker, longnose sucker and mottled sculpin. These species apparently reproduce successfully. None of these species have any special status or designation in Montana, nor does our Department have any specific concerns about the fish in Sevenmile Creek.

Your report that Sevenmile goes dry about every other year (during the summer I presume) means that fish would have to recolonize in the fall or during a wet year. Given the frequency of dewatering, it is likely that recolonization never produces the fish densities that would occur if the channel was permanently wetted. It would not surprise me (although I speak without facts) if young-of-the-year fry of all fish species emigrate to your property every spring from spawning areas upstream, only to be trapped and killed as irrigators divert all the water in the summer.

Lack of water is only part of the problem with aquatic habitat in Sevenmile Creek on your property. Existing livestock and agricultural practices apparently have removed much streamside vegetation, providing less cover for fish and poor shielding from solar heating in the summer. So, even if water was available for fish, poor habitat conditions would probably keep biomass below its full potential.

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The effects of a land exchange on the fishery resource would depend on the future uses of the land. If irrigation diversions increased in frequency or magnitude, or if the destruction of streambank vegetation by livestock or plowing increased, then the minimal fishery resource that exists now could be further diminished. If the land is developed for housing, it seems likely that the first lots would be along Sevenmile Creek. Additional destruction of streambank vegetation could occur if: 1) shrubs were removed to make lawns; 2) if rip-rap or other types of revetment were used to stop bank erosion into someone's lawn or property; or 3) if portions of the riparian area were filled in to make room for flat areas for houses. On the other hand, if the developer imposes a setback requirement from the water's edge, the habitat may actually improve. Would it be possible for the MT ARNG to stipulate such a requirement in the exchange? Or perhaps a conservation agreement to that effect?

I hope these comments are of some use to you. Give me a call if you have any questions.

Sincerely,

Don Skaar
Helena Area
Fisheries Management Biologist

United States Department of the Interior

FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
100 N PARK, SUITE 320
HELENA MT 59601

IN REPLY REFER TO:

M.10

December 5, 1994

John B. Wheeler, J.D.
Environmental Program Manager
Department of Military Affairs
P.O. Box 4789
Helena, Montana 59604-4789

Dear Mr. Wheeler:

This responds to your November 9 letter regarding the Montana Army National Guard proposed land exchange north and east of Fort Harrison near Helena, Montana. Your letter requested identification of the threatened and endangered species that should be considered in connection with this project and any other comments we may have with respect to other fish and wildlife in or near the project area.

Considering the specific nature and location of this project we do not believe there will be any project related impacts to threatened and endangered species and we do not have any site specific information for other fisheries or wildlife in the proposed project area. The Montana Heritage Program, 1515 E 6th Ave., Box 201800, Helena, Montana 59620-1800, may be an excellent source of information for site specific wildlife data for this project.

We appreciate your efforts to consider and conserve fish and wildlife resources, including threatened and endangered species. If you have questions regarding this letter, please contact Rob Hazlewood of my staff at (406) 449-5225.

Sincerely,

Kemper M. McMaster
Field Supervisor
Montana Field Office

RMH/rmh

DEPARTMENT OF
HEALTH AND ENVIRONMENTAL SCIENCES
AIR QUALITY DIVISION

836 FRONT STREET

STATE OF MONTANA

(406) 444-3454
(406) 444-3671
FAX (406) 444-5275

PO BOX 200901
HELENA, MONTANA 59620-0901

December 12, 1994

Cliff Youmans
Department of Military Affairs
Environmental Office
P.O. Box 4789
Helena, Montana 59604-4789

Dear Mr. Youmans:

The Department of Health and Environmental Sciences' Air Quality Division (AQD) has reviewed your proposal for exchange of land from an air quality standpoint. Your proposal states there will not be a change to land use and that the existing ranges will be used after the exchange of land. Based on this proposal, the air quality impacts would remain the same and no further comments are necessary.

If at a future time changes are to be made to the ranges or an indoor range is developed, the AQD should be contacted.

If you have any questions, please let me know.

Sincerely,

Catherine Quiñones
Environmental Engineer

CQ:kt

City of Helena

December 28, 1994

Department of Military Affairs
Environmental Office/Attn: Clif Youmans
PO Box 4789
Helena, MT 59604-4789

Dear Mr. Youmans:

The Helena/Lewis and Clark Historic Preservation Commission (HPC) discussed the Montana Army National Guard's proposed land exchange adjacent to Fort Harrison at their monthly meeting on December 14, 1994. These properties include some former mining claims, and may contain some potentially historic and prehistoric sites.

The HPC encourages the Department of Military Affairs to work with the State Historic Preservation Office (SHPO) to document historic and prehistoric sites on the properties, and to identify mitigation requirements if historic and prehistoric sites will be affected by this land exchange. A file search should be done to identify sites that have already been inventoried. Optimally, this documentation and mitigation should be done for both the property presently owned by the National Guard (that is proposed to be exchanged), and the land that would be acquired with the proposed exchange. The HPC anticipates that this information would be included in the environmental assessment before the land is exchanged.

Thank you for the opportunity to comment.

Sincerely,

Kathy Macefield

Kathy Macefield
Historic Preservation Officer

File: 150L NGuard.Ltr

316 N. Park, Helena, Montana 59623 Phone: (406) 447-8000